

# **MICHIGAN DEPARTMENT OF TRANSPORTATION**

## **PHASE I STORM WATER MANAGEMENT PLAN**

**Ann Arbor Permit No. MI0053911**

**Flint Permit No. MI0053929**

**Grand Rapids Permit No. MI0053937**

**Sterling Heights Permit No. MI0053953**

**Warren Permit No. MI0053945**

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**For**



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# **1. Overview of the SWMP**

## **1.1. Introduction**

In 2001, the Michigan Department of Environmental Quality (MDEQ) issued National Pollutant Discharge Elimination System (NPDES) Permits (No. MI0053911, MI0053929, MI0053937, MI0053953, MI0053945, hereinafter referred to as Permits) to the Michigan Department of Transportation (MDOT) for MDOT-operated storm water drainage systems in the communities of Ann Arbor, Flint, Grand Rapids, Sterling Heights, and Warren. The NPDES Permits authorize MDOT to discharge from all of its existing Municipal Separate Storm Sewer System (MS4) outfalls that serve roadways in these communities to surface waters of the state in the Clinton, Flint, Grand, and Huron River Watersheds. The Permits expire on October 1, 2006.

These NPDES Permits require MDOT to submit an approvable Storm Water Management Program and implementation schedule(s) to the MDEQ, Surface Water Quality Division, within one year of the effective date of the permit. The Permits require the Storm Water Management Program to include a description of plans to accomplish illicit discharge elimination, public education, and storm water pollution prevention.

This Storm Water Management Plan (SWMP) was developed by the Michigan Department of Transportation for the purpose of describing the procedures and practices MDOT uses to reduce the discharge of pollutants from storm drainage systems owned or operated by MDOT.

This SWMP addresses storm water pollution control related to highway planning, design, construction, and maintenance activities in the five (5) Phase I communities of Ann Arbor, Flint, Grand Rapids, Sterling Heights, and Warren. In addition, this SWMP identifies responsibilities within MDOT for implementing storm water management procedures and practices, as well as training, public education and participation, program evaluation, and reporting activities.

Introductory information is provided on the following topics in this section.

- Storm water regulations that apply to the MDOT (Section 1.2);
- The types of properties, facilities, and activities covered by this SWMP (Section 1.3);
- The relationship between the Permit and this SWMP (Section 1.4);
- Regulatory roles and responsibilities (Section 1.5); and
- The contents and organization of this SWMP (Section 1.6).

This document identifies MDOT's storm water management activities within the five (5) Phase I storm water regulated communities of Ann Arbor, Flint, Grand Rapids, Sterling Heights, and Warren.

## **1.2. Storm Water Regulations that Apply to the MDOT**

Federal environmental regulations based on the Clean Water Act (CWA) require the control of pollutants from MS4s, construction sites, and industrial activities. Discharges from such sources were brought under the NPDES permit process by the 1987 CWA amendments and the subsequent promulgation of storm water regulations by the U.S. Environmental Protection Agency (U.S. EPA). In Michigan, the U.S. EPA has delegated administration of the federal NPDES program to the Michigan Department of Environmental Quality (MDEQ). The MDEQ has issued general NPDES storm water permits for designated types of construction and industrial activities and has also developed MDOT's MS4 Permits.

Under the federal storm water regulations, portions of MDOT properties, facilities, and activities come under the jurisdiction of NPDES storm water regulations for two primary reasons:

- MDOT highways and highway-related properties, facilities, and activities are served by extensive storm drain systems that in urban areas are often connected to, and are considered to be comparable to municipal separate storm sewer systems, which are covered explicitly in the federal storm water regulations.
- Construction of MDOT's highways and related facilities often result in soil disturbance of areas greater than 5 acres and, therefore, are subject to specific requirements are prescribed by the federal storm water regulations.

The Code of Federal Regulations (CFR), at 40 CFR 122.26(a)(iii) and (iv), requires that NPDES storm water permits be issued for discharges from large and medium MS4s. The regulations define the term, "municipal separate storm sewer systems" to mean "a conveyance or system of conveyances (including roads and drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains): (i) owned or operated by a state, city, town, borough, county...." MDOT, as the owner and operator of an MS4, is subject to an NPDES MS4 permit in those areas of Michigan specified under federal regulation (urban areas with population greater than 100,000).

Furthermore, federal regulations (40 CFR 122.26) require discharges of storm water associated with construction activity, including clearing, grading and excavation activities to obtain a NPDES permit. Beginning in March, 2003, all projects disturbing greater than one acre will require a permit. MDOT Permits for the five Phase I communities currently require that MDOT implement and enforce a program for construction projects connecting to the MDOT system that disturb greater than one acre of total land area and that are not part of a larger common plan of development.

## **1.3. MDOT's Facilities and Coverage of the SWMP**

MDOT's mission is to "provide the highest-quality transportation services for economic benefit and improved quality of life." This mission involves planning, designing, constructing, and maintaining large-scale transportation facilities (e.g. freeways, highways, interchanges, bridges, and tunnels). MDOT also has the responsibility of

accomplishing its mission in ways that comply with public policy and applicable regulations, including complying with the federally-mandated storm water runoff program through complying with the Permit and implementing an effective SWMP.

### **1.3.1. MDOT Facilities and Storm Water Systems**

To protect public safety and prevent property damage, MDOT operates its storm water drainage systems to minimize flooding and prevent the presence of standing water on traveled areas within a right-of-way (ROW) via drainage systems within or adjacent to MDOT's ROWs. In some locations, runoff drains from off-site areas onto MDOT's ROWs or MDOT facility sites due to local topography and drainage patterns. In these cases, MDOT's drainage systems are designed to convey the storm water contributed from MDOT's property and storm water from off-site areas.

In urban areas, some drainage systems connect directly to receiving waters, others discharge to municipal storm drain systems. Highways in urban settings typically have curbs and gutters, whereas freeways and rural highways typically have off-shoulder or median drainage swales. For purposes of this plan, direct connections to receiving waters are identified as regulated outfalls. Connections to municipal storm drain systems are discharge points, not regulated outfalls.

MDOT's facilities are located in diverse settings, ranging from highly urbanized to very rural, including Great Lakes coastal areas, forests, and farmland. Drainage systems that serve MDOT properties and facilities ultimately discharge storm water and permitted or exempt non-storm water to receiving waters as diverse as intermittent creeks, lakes, the Great Lakes and connecting waterways, wetlands, rivers and county drains. The sensitivity of receiving waters to potential impacts from storm water discharges also varies widely, depending on factors such as location, local hydrology, the nature of MDOT's facilities and drainage systems, discharges and pollutants from other sources, and the beneficial uses of the receiving waters.

### **1.3.2. Storm Water Quality Issues**

**Designated Uses** – Waters of the State of Michigan are protected for certain designated uses as set forth in public law. Public Act 451, Part 4 Rules of Part 31, Rule 100 of 1994, states that all surface water bodies shall be protected for the following minimum designated uses:

- Agriculture
- Industrial water supply
- Public water supply at the point of intake
- Navigation
- Warm water fishery
- Other indigenous aquatic life and wildlife
- Partial body contact recreation
- Total body contact recreation between May 1 and October 31

Certain waterways are additionally designated and, therefore, protected for use as a cold-water fishery.

**Impaired Uses** - Impaired uses occur where water bodies are not meeting state water quality standards. These water bodies are considered to have non-attainment status and are listed in the state of Michigan's 303(d) List. State and federal law require the development of Total Maximum Daily Load (TMDL) allocations for 303(d) listed water bodies. Development of a TMDL requires that a plan be developed to mitigate the specific pollutants at the source, which cause the listing and non-attainment of water quality standards.

### **1.3.3. Coverage of SWMP**

This SWMP describes the minimum procedures and practices used to reduce the discharge of pollutants from storm water drainage systems owned or operated by MDOT. MDOT's activities or properties that may be sources of pollutants are:

- Road surfaces and shoulders (ROWs);
- Highway-related facilities, and
- Construction activities conducted within ROW.

The specific MDOT owned or operated facilities addressed by the SWMP are identified in Chapter 11.

In various areas of Michigan, Waters of the State may pass through, over, or under MDOT property or facilities. These waters may contain pollutants at the point at which they enter MDOT property or facilities. In these circumstances, MDOT will be responsible only for those pollutants contributed to such waters that are discharged from its point source and not for the pollutants present when they entered MDOT's properties.

### **1.3.4. Emergency Response**

Throughout the year, conditions may arise that require MDOT to conduct emergency activities to protect public health, safety, or property. Conditions during the emergency activities may result in MDOT not implementing elements of the SWMP. Such incidents are not considered non-compliance in accordance with 40 CFR Sections 122.41 (n)(1) through (n)(4), which address incidents such as an emergency response for public safety. This includes incidents in which there is an unintentional and temporary noncompliance with technology based permit effluent limitations due to factors beyond the reasonable control of the permittee. Incidents covered under this Section do not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

## **1.4. Relationship Between the Individual City Permits and the SWMP**

The Permits direct MDOT to implement and maintain an effective SWMP. MDOT is required to report annually on the SWMP's implementation and assess its effectiveness.

An important purpose of the SWMP and MDOT's Storm Water Management Program is to ensure that those who direct and perform activities that may affect the quality of storm water system discharges are aware of their respective roles and responsibilities.

Although this SWMP presents programmatic requirements and provides general guidance, it does not contain the level of detailed guidance and requirements that are needed to serve personnel at all positions within the organization whose daily activities may have an impact on storm water quality. Such specific guidance is found elsewhere in a variety of other documents, including manuals, standards, and specifications.

MDOT's goal is to incorporate BMPs identified in this and subsequent SWMPs into MDOT's general operational manuals. Copies of these operational manuals are available to purchase at <http://www.michigan.gov/mdot/>, by selecting maps and publications, followed by list of MDOT publications to order. This allows MDOT flexibility to make necessary modifications to expand or improve upon the detailed procedures within the framework of the SWMP.

### **1.5. Regulatory Roles and Responsibilities**

The CWA, as amended, directs the U.S. EPA to implement federal regulations governing water quality, including discharges from storm water systems. The CWA also allows the U.S. EPA to delegate NPDES permitting authority to states with approved regulatory programs. The State of Michigan is a delegated state, and issues, monitors, and enforces NPDES permits through its legal authority provided by Public Act 451, as amended. The U.S. EPA retains authority to approve, reject, monitor, and enforce NPDES permits in Michigan.

### **1.6. Organization of this SWMP**

The remainder of this document, including the Appendices, details the essential program elements of MDOT's Storm Water Program for the Phase I Stormwater Program regulated communities of Ann Arbor, Flint, Grand Rapids, Sterling Heights, and Warren.

- Section 2, Program Management, describes the organization and responsibilities for overall Permit compliance and program implementation within the Michigan Department of Transportation. Section 2 also describes coordination with other permittees and agencies.
- Section 3, BMP Identification and Implementation, describes the process for evaluating and selecting BMPs (details are presented in Appendix B).
- Section 4, Public Education BMPs, describes MDOT's Public Education Program elements.
- Section 5, Public Involvement/Participation BMPs, describes the mechanisms for public involvement and participation.
- Section 6, Illicit Discharge Elimination BMPs, describes MDOT programs and policies for identifying and eliminating illicit, non-storm water discharges to MDOT owned or operated storm water drainage systems and waters of the State within ROWs of MDOT.
- Section 7, Project Post Construction BMPs, describes MDOT approved best management practices (BMPs) to be put in place for new construction and/or re-development projects following the completion of construction activities.

- Section 8, Construction Erosion and Sediment Control BMPs, describes BMPs to be utilized before and during construction and earth moving activities.
- Section 9, Pollution Prevention/Good Housekeeping BMPs, describes the use of pollution prevention and good housekeeping BMPs for maintenance activities performed by MDOT.
- Section 10, Program Assessment and Reporting, describes how MDOT will provide reports to MDEQ, including noncompliance reports and annual reports required under the Permits.
- Section 11, Location Specific Information, summarizes the requirements, procedures, and practices that may be unique to individual permitted Phase I communities due to the nature of the facilities or specific water quality concerns and/or regulatory requirements for their receiving waters.
- Appendix A – Acronyms, contains a list of acronyms in this document.
- Appendix B – Details of BMP Selection and Evaluation, describes the initial process used by MDOT for selecting and evaluation storm water BMPs.
- Appendix C – Watershed and Local Stream Organizations, has a list of known watershed and local stream organizations.
- Appendix D – IDEP Field Protocol Manual, includes a copy of the field protocol manual used in the IDEP program.

## **2. Program Management**

### **2.1. Overview**

The goal of this SWMP is to assist the State of Michigan in achieving water quality standards for surface water bodies. The minimum requirement is to ensure that pollutants in discharges from Municipal Separate Storm Sewer System (MS4s) owned or operated by MDOT are reduced to the maximum extent practicable.

### **2.2. Storm Water Management Responsibilities within the MDOT**

The MDOT Municipal Separate Storm Sewer System (MS4s) team consists of members from different MDOT/TSCs regions and organization groups within the department, as well as consultants, are responsible for addressing storm water management issues affecting MDOT. This team meets once a month for progress meetings concerning all aspects of the storm water program including, but not limited to, the Illicit Discharge Elimination Program (IDEP), the Public Education Program (PEP), pollution prevention/good housekeeping initiatives, the development of a new Drainage Manual for MDOT, and additional requirements. This committee provides technical oversight for MDOT's storm water issues, while the following regional storm water coordinators ensure that the storm water program is applied.

- Bob Batt (University Region) (517) 750-0410
- Todd Neiss (Grand Region) (616) 451-3091
- Cary Rouse (Bay Region) (989) 754-0878
- Sharon Ferman (Metro Region) (248) 483-5136
- Julie VanPortfliet (Superior Region) (906) 786-1830
- Gary Niemi (North Region) (989) 941-1986
- Will Mathies (Southwest Region) (269) 337-3938

Within MDOT, the overall storm water program coordinators are:

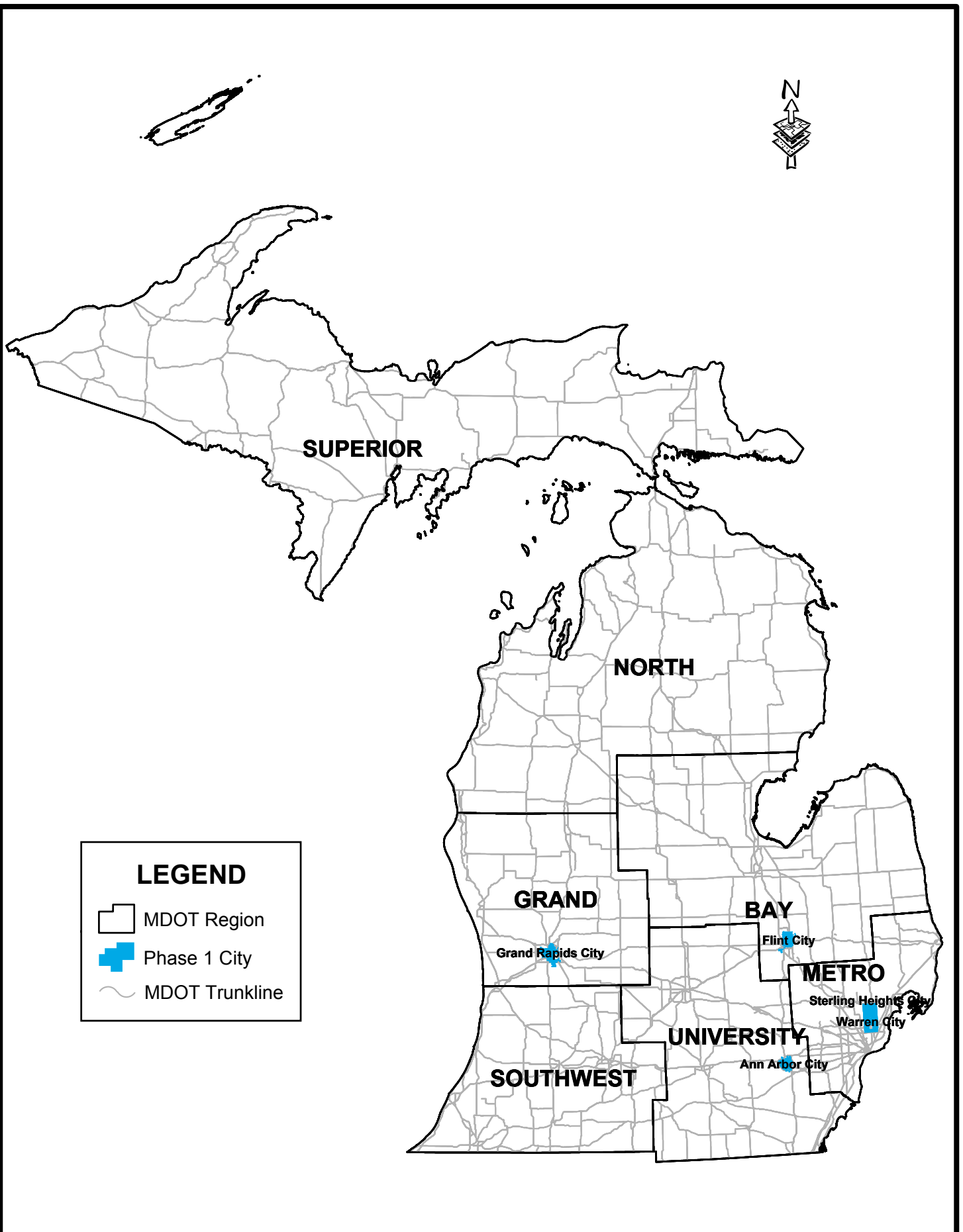
- Peter Ollila (517) 373-1908
- Gary Croskey (517) 335-2171

### **2.3. Coordination with Municipal Storm Water Permittees**

The Phase I storm water-regulated communities of Ann Arbor, Flint, Grand Rapids, Sterling Heights, and Warren are located within the University, Bay, Grand, and Metro MDOT Regions respectively, as seen in Figure 2-1. Coordination with municipal storm water permittees in these Regions is coordinated through the appropriate Region Offices by the Region Engineer. In many cases, discharges from MDOT's MS4s flow to MS4s owned or operated by municipalities (e.g. cities or counties) and vice versa. The municipalities and MDOT are ultimately responsible for the quality of the discharges from their MS4s. To comply with the individual Permits, MDOT will ensure pollutants are reduced or controlled in discharges from MDOT MS4s into municipal systems.

Permitted municipalities will do the same for discharges from their facilities into MDOT MS4s.

MDOT coordinates storm water management activities with municipalities, the MDEQ, and other entities as necessary or appropriate. Coordination is implemented through formal and informal discussions, meetings, agreements, and procedures.





## **2.4. Coordination with the Public**

Coordination with the public occurs through three primary mechanisms, an Internet website, citizen complaints and public involvement. Each is identified below.

### **2.4.1. Web Site**

MDOT has developed a website found by first going to MDOT's home page, <http://www.michigan.gov/mdot/>, and then selecting projects and programs, highway programs, storm water management, to reach MDOT's Storm Water Management website. This website provides information and educational materials for MDOT's employees and the general public regarding their programs and policies for storm water management, including this storm water management plan. The storm water management website discusses the purpose of the storm water management plan (along with read-only copies of the plan available to download), features an interactive illicit discharge demonstration, and lists activities and resources for each community. A highlight on each of the Phase I Communities' website page is a section called, "Getting Involved," where local information is posted to encourage participation in local watershed groups, river clean-up activities, household hazardous waste disposal, yard waste recycling and disposal, trash management, septic tank management and other activities.

### **2.4.2. Complaints**

All general complaints received by MDOT are relayed to the TSC Manager who follows up the complaints with appropriate actions. Any complaints made regarding storm water are forwarded to the appropriate regional storm water coordinator.

### **2.4.3. Public Involvement on Specific Projects – Public Meetings/Hearings**

Storm water related public involvement issues are handled on a project specific basis through MDOT's public involvement process and project planning stages.

## **2.5. Legal Authority**

MDOT demonstrated its legal authority to regulate and/or prohibit direct discharges to and from its MS4s in Parts 1 and 2 of its NPDES permit application. MDOT's legal authority is derived from state statutes and federal law. The legal authority, as presented in the application, provides MDOT with the necessary legal mechanisms to:

- Regulate the contribution of pollutants to its MS4;
- Prohibit illicit discharges and control spills and dumping;
- Assure that appropriate cleanup measures are undertaken;
- Coordinate with other entities that are covered by the NPDES storm water permitting system to control the contribution of pollutants to the MS4;
- Control construction site and other industrial discharges to the MS4;
- Require compliance with all regulations and statutes; and
- Conduct inspections, surveillance, and monitoring procedures.

MDOT's legal authority for highway purposes extends to the limits of the right-of-way owned or controlled by MDOT. MDOT will request the help of local and state agencies,

which have legal enforcement authority to conduct inspections and investigations off the right-of-way, if necessary, to detect and eliminate illicit discharges.

## **2.6. Acronyms**

A listing of acronyms referenced to this plan is provided in Appendix A.

## **3. BMP Identification and Implementation**

### **3.1. Overview**

This section presents an overview of the process followed by the Michigan of Department Transportation (MDOT), to assess appropriate structural and non-structural Best Management Practices (BMPs), which may be applicable to the activities. In 1999, MDOT undertook a detailed investigation of nation-wide BMP programs and pilot studies for urban areas and other departments of transportation. This analysis was summarized in a report and matrix of the BMPs evaluated in early 2000. MDOT officials reviewed this BMP matrix and report, provided specific comments on each BMP, and generated a list of approved BMPs for MDOT as summarized in this section.

### **3.2. BMP Adoption Procedure**

This section provides the results of initial BMP selections. Selected BMPs are identified as structural or non-structural. A process for future the revision or expansion of this initial list is also described.

The full list of BMPs reviewed by MDOT is provided in Appendix B and summarized below. The matrix includes an overall and preliminary investigation of urban runoff control BMPs, which could be applicable to MDOT activities. The matrix includes structural and non-structural BMPs, as well as BMPs currently being tested in pilot studies by California Department of Transportation (Caltrans). Information such as BMP description, limitations, benefits, pollutant removal efficiency (based on actual monitoring data), capital costs, and O&M costs is included. The information presented was retrieved from data available at the time the matrix was generated. Costs presented are from 1999, unless indicated otherwise. MDOT reviewed this summary information and provided specific comments on each BMP, based on applicability to their operations and activities.

#### **3.2.1. Structural BMPs**

The following is a brief outline of the structural BMPs approved by the MDOT as appropriate for its activities:

Infiltration Trench is a gravel-filled trench designed to infiltrate storm water into the ground. Typically, infiltration trenches can only capture a small amount of runoff, and therefore, may be designed to capture the first flush of the runoff event. For this reason, they are typically used with other BMPs, such as detention basins to control peak flows.

Infiltration Basin are designed to capture a storm water runoff volume, hold this volume and infiltrate it into the ground over a period of days. This system consists of a pretreatment structure, a manifold system, and a drain field. Basins are typically not designed to retain a permanent pool of water.

First Flush Basins are sized to regulate water quality by dropping out pollutants attached to sediments. First flush refers to the large percentage of storm pollutant loading that is

produced by a relatively small percentage of the runoff volume during the initial stages of the runoff. First flush basins may be used with other BMPs.

Concrete Grid Pavements are lattice grid structures with grassed or pervious material placed in the grid openings. Their use, however, is generally restricted to parking areas and driveways.

Wetlands (constructed) consist of a basin with a forebay and wetland vegetation area. The forebay traps floatables and the larger settleable solids, facilitating maintenance, as well as protecting the wetland vegetation.

Vegetated Swales are vegetated shallow channels with a dense stand of vegetation covering the side slopes and channel bottom that treat concentrated flows.

Infiltration (Vegetative Filter) Strips are densely vegetated, uniformly graded areas that intercept sheet flow and are usually placed parallel to the contributing surface.

Detention Basins are basins that are dry between storms. During a storm, the basin fills. A bottom outlet releases the storm water slowly to provide time for sediments to settle.

Catch Basin Inlet Devices are devices that are inserted into storm drain inlets to filter, or absorb sediment, pollutants, and oil and grease. These devices are typically placed at locations with a high potential for contamination.

BMPs that can be used during construction to control soil erosion and sediment include:

- Temporary Seeding of Stripped Areas
- Mulching and Matting
- Plastic Covering

### **3.2.2. Non-Structural BMPs**

Non-structural BMPs are preventative actions that involve managerial planning and source controls. In addition to the structural BMPs presented above, MDOT approved of the non-structural and erosion control BMPs listed below: These BMPs are discussed in the Operations and Maintenance Handbook.

- Employee Training
- Litter Control
- Identify and Prohibit Illegal or Illicit Discharges to Storm Drains
- Street Sweeping
- Clean and Maintain Storm Drain Channels
- Clean and Maintain Storm Inlet and Catch Basins
- Snow and Ice Control Operations

Additional non-structural BMPs will be discussed throughout this plan.

### **3.2.3. Future BMP Adoption Process**

This section describes the process that MDOT will use to identify, evaluate, and approve BMPs for consideration into activities and projects. The approval process described in this section is currently used for all changes in procedures and new products within MDOT.

The first step in the approval process is to determine the changes needed and conduct the necessary research on the subject. Responsibility for this step is on the individual desiring the change. For storm water management BMPs, the MS4 team described in Section 2.2., has undertaken this task in order to ensure that all appropriate BMPs are approved and available to use on MDOT projects. The second step in the process is to submit this change to the appropriate area of responsibility within MDOT. The MS4 team will assist with identifying the appropriate area of responsibility to submit the document and research to. Once submitted, the change must be reviewed and approved by the appropriate individual within the area of responsibility with expertise in the area. Final approval is required prior to implementation. Refer to Section 10.7. and 10.10., for additional information on the reporting of changes to BMPs and to the Storm Water Management Plan.

### **3.3. BMP Implementation**

The Development Engineer, the Delivery Engineer and the Maintenance Coordinators will evaluate on a site-by-site basis, when and where to deploy the BMPs. BMPs for treatment will be considered both for incorporation into transportation improvement projects (new construction and major reconstruction) and to retrofit existing storm drain systems.

The Development Engineer will then select the specific BMP(s) to implement from the list of potential BMPs, based upon site constraints and specifics of the case-by-case application.

## **4. Public Education BMPs**

### **4.1. Overview**

The Public Education and Outreach Program is designed to promote, publicize, and facilitate watershed education to encourage the public to reduce the discharge of pollutants in storm water. This chapter describes how MDOT will fulfill Permit requirements to implement a public education and outreach program involving the following major components:

- Internal education regarding illicit discharges and improper waste disposal.
- Internal education on ultimate discharge points and potential impacts of pollutants.
- Internal education on watershed stewardship.
- General public education about water quality protection and storm water as a pollution source.
- Coordinated efforts with the MDEQ's statewide public education program.

This chapter is organized as follows:

- Section 4.2. describes the BMPs that MDOT will use to implement the public education and outreach program and the measurable goals associated with each BMP.
- Section 4.3. describes the schedule for public education and outreach BMP implementation.

### **4.2. BMP Identification and Measurable Goals**

In order to educate the public, both internal and general, in all aspects of MDOT storm water management program, the following sections identify BMPs to be implemented.

#### **4.2.1. Internal Notification of Storm Water Management Program**

MDOT will follow state and federal public notice requirements to notify the job-related public of the storm water management program that must be implemented. The job-related public will be notified of the program through use of the following media:

- MDOT Today newsletter
- Monday Memo
- MDOT's Storm Water Management website
- Other internal MDOT publications

The employee notice shall contain the following information:

- Location to view a copy of the storm water management program
- Program Implementation date
- Program Purpose

- Program Implementation
- Program comments contact person
- Other information deemed important by MDOT

MDOT will develop a series of training modules designed to be approximately 15 minutes in length. The first module will be a basic introduction of the Storm Water Management Plan for appropriate employees. A database will be developed to track the number of sessions given, dates, and employees in attendance.

In order to evaluate the program's effectiveness, several measurable goals will need to be established. These measurable goals will be presented in the annual report submitted to MDEQ each year, will include the following:

- Type and number of media used
- Type and number of training presentation given
- Number of job-related public that attend training presentations

#### **4.2.2. Internal Education: Illicit Discharges and Improper Waste Disposal**

MDOT will educate targeted employees about illicit discharge and improper waste disposal. Employees will be directed to visit the MDOT Storm Water Management website, which features an interactive, educational demonstration about illicit discharge and improper waste disposal. Promotion of the website will be placed in the media identified in Section 4.2.1.

One of MDOT's internal training modules will address illicit discharges and improper waste disposal. The module will be targeted towards departments most likely to encounter illicit discharges or improper waste disposal during the course of their daily activities, or while working in the field. These areas may include Planning, Design, Construction and Technology, and Maintenance. Employees will be encouraged to contact their Supervisor, MDOT Regional Storm Water Coordinator, or MDEQ's Pollution Emergency Alerting System (PEAS), if a discovery is made. Appropriate employees will be trained biannually. A database will be developed to track the number of sessions given, dates, and employees in attendance.

This BMP will be implemented at the completion of the final draft of this report. Measurable goals will be reported in each annual report and will include the following items:

- Type and number of media used to inform employees about website
- Number of website hits
  - Number of comments about website
  - Number of employees that learned something new
  - Number of behavior changes as a result of visiting website
- Number of training courses given
- Number of the job-related public reached in training presentations

#### **4.2.3. Internal Education: Ultimate Discharge Point and Potential Impacts of Pollutants**

MDOT will educate their employees about ultimate discharge points and potential impacts of pollutants. A series of articles will be written for publication in the MDOT media described in Section 4.2.1. Topics will include lawn and garden activities, proper disposal of household hazardous waste, travel trailer sanitary waste disposal, pet waste management and trash management. The articles will also discuss how pollutants are carried by storm water runoff and are eventually deposited into nearby lakes and streams. Each article will provide useful resources, such as an environmental-friendly pesticide list, household hazardous waste collection centers, and businesses that accept travel trailer sanitary waste.

MDOT is currently developing a Drainage Manual to provide MDOT designers and design consultants with policies and procedures for designing drainage facilities and with MDOT's Storm Water Management Best Management Practices. The Manual will be an electronic, interactive training device and will be referenced in consultant design contracts.

This BMP will be implemented at the completion of the final draft of this report. Measurable goals will be reported in each annual report and will include the following items:

- Type and number of media used
- Number of articles published
- Number of the job-related public that learn something new
- Number of the job-related public that change behavior as a result of article
- Number of job-related public that use items distributed with pamphlet
- Number of Drainage Manuals downloaded or published

#### **4.2.4. Internal Education: Watershed Stewardship**

MDOT will encourage their employees to be good stewards of their watershed. MDOT will encourage participation in existing litter pick-up programs, such as Adopt-A-Highway.

MDOT has developed a Storm Water Management website that discusses the purpose of the SWMP (along with read-only copies of the plan available to download), features an interactive illicit discharge demonstration, and lists activities and resources for each community. A highlight on each of the Phase I Communities' website page is a section called "Getting Involved," where local information is posted to encourage participation in local watershed groups, river clean-up activities, household hazardous waste disposal, yard waste recycling and disposal, trash management, septic tank management and other activities.

A Storm Water Management brochure, a website promotion card, and Storm Water Management litterbags have been printed and distributed to local MDOT Transportation Service Centers and Region Office within the Phase I areas. The brochure discusses the

intent of the MDOT Storm Water Management Plan and educates about illicit discharges. The litterbag lists several general watershed stewardship tips and can be used for automobile trash. This action item also meets requirements of and is discussed in Section 4.2.5.

MDOT has established the Lansing Information Center, a library full of various resources related to storm water. The Lansing Information Center is available to all of the job-related public and will have a permanent location. Currently, the Lansing Information Center houses the MDOT Storm Water Management educational materials discussed in the previous paragraph. In addition, it houses a series of notebooks for each of the Phase I communities with organized examples of local public education materials, such as brochures, guidebooks, posters and videos. This action item also meets requirements of and is discussed in Section 4.2.5.

This BMP will be implemented at the completion of the final draft of this report. Measurable goals will be reported in each annual report and will include the following items:

- Number of website visits
- Number of documents downloaded
- Number of comments received by the public pertaining to the website
- Number of brochures distributed
- Number of website promotion business cards distributed
- Number of litterbags distributed
- Number of items checked out of the Lansing Information Center

#### **4.2.5. General Public Education: Water Quality Protection and Storm Water as a Pollution Source**

MDOT will participate in a statewide program to educate the general public about water quality protection and storm water as a pollution source. If MDEQ develops a statewide public education program, MDOT shall seek a partnership agreement with MDEQ for implementation of Part I.B.1.a.4 of the Permits.

MDOT has developed a Storm Water Management website that discusses the purpose of the SWMP (along with read-only copies of the plan available to download), features an interactive illicit discharge demonstration, and lists activities and resources for each community. A highlight on each of the Phase I Communities' web page is a section called "Getting Involved," where local information is posted to encourage participation in local watershed groups, river clean-up activities, household hazardous waste disposal, yard waste recycling and disposal, trash management, septic tank management and other activities. This action item also meets requirements of and is discussed in Section 4.2.3.

A Storm Water Management brochure, a website promotion card, and Storm Water Management litterbags have been printed and distributed to local MDOT Transportation Service Centers and Region Office within the Phase I areas. The brochure describes the intent of the MDOT Storm Water Management Plan and educates about illicit discharges.

The litterbag lists several general watershed stewardship tips and can be used for automobile trash. This action item also meets requirements of and is discussed in Section 4.2.3.

This BMP will be implemented at the completion of the final draft of this report. Measurable goals will be reported in each annual report and will include the following items:

- Number of activities coordinated with MDEQ
- Number of website visits
- Number of documents downloaded
- Number of comments received by the public pertaining to the website
- Number of brochures distributed
- Number of website promotion cards distributed
- Number of litterbags distributed

### 4.3. Implementation Schedule

For purposes of the public education and outreach program, the BMPs discussed in this chapter are summarized in the following Table 4-1.

**Table 4-1 Public Involvement and Participation Summary**

ID No.	BMP	Measurable Goals
4.2.1	Internal Notification of Storm Water Management Program	Type and number of media used for notification Type and number of training modules Number of the job-related public that attend training modules
4.2.2	Internal Education: Illicit Discharge and Improper Waste Disposal	Type and number of media used Number of website site visits Number of comments about the website Number of the job-related public that learned something new Number of the job-related public that changed behavior as a result of article Number of training courses given Number of the job-related public reached in training courses
4.2.3	Internal Education: Ultimate Discharge Point and Potential Impact of Pollutants	Type and number of media used Number of articles published Number of the job-related public that learn something new Number of the job-related public that changed behavior as a result of article Number of the job-related public that use items distributed with pamphlet Number of Drainage Manuals downloaded and published
4.2.4	Internal Education: Watershed Stewardship	Number of website visits Number of documents downloaded Number of comments received pertaining to the Website Number of brochures distributed Number of website promotion cards distributed Number of litter bags distributed Number of Lansing Information Center visitors
4.2.5	General Public Education: Water Quality and Storm Water as a Pollution Source	Number of activities coordinated with MDEQ Number of website hits Number of documents downloaded Number of comments received by public Number of brochures distributed Number of website promotion cards distributed Number of litter bags distributed

MDOT will begin to implement these BMPs upon approval of this plan by MDEQ and the availability of funds. The following Table 4-2 is an estimated implementation schedule for all of the actions or interim milestones needed to fulfill the BMPs discussed in this chapter for a public education and outreach program.

**Table 4-2 Implementation Schedule for Public Education and Outreach Program**

ID No.	Action	Year of Implementation			
		2002	2003	2004	2005
4.2.1	<b>Internal Notification of Storm Water Management Program</b>				
	Notify the job-related public through MDOT media	X	X	X	X
	Develop SWMP Introduction for series of training modules	X	X	X	X
	Give training to appropriate personnel		X	X	X
4.2.2	<b>Internal Education: Illicit Discharges and Improper Waste Disposal</b>				
	Notify the job-related public of website through media	X	X	X	X
	Distribute educational pamphlet and survey	X	X	X	X
	Collect and review survey results	X	X	X	X
	Develop training courses		X	X	X
	Provide training course to appropriate personnel			X	X
4.2.3	<b>Internal Education: Ultimate Discharge Point and Potential Impacts of Pollutants</b>				
	Develop series of articles		X	X	X
	Publish articles	X	X	X	X
	Distribute educational pamphlet and survey	X	X	X	X
	Collect and review survey results	X	X	X	X
	Develop Drainage Manual				
4.2.4	<b>Internal Education: Watershed Stewardship</b>				
	Encourage participation in Adopt-A-Highway	X	X	X	X
	Continue to distribute educational materials	X	X	X	X
	Establish tracking system for Lansing Information Center	X	X	X	X
4.2.5	<b>General Public Education: Water Quality Protection and Storm Water as a Pollution Source</b>				
	Coordinate general public education with MDEQ	X	X	X	X
	Continue to distribute educational materials	X	X	X	X

## **5. Public Involvement/Participation BMPs**

### **5.1. Overview**

This chapter describes how MDOT will fulfill permit requirements of the general public involvement and participation in storm water management programs involving state highways, right-of-ways and other facilities. The program involves the following major components:

- Follow state or federal public notice requirements, as appropriate, when notifying the public that a storm water management program must be implemented.
- Inform local stream or watershed protection organizations, if any, of activities under the storm water management program and allow them to review and comment on the storm water management program plan.

This chapter is organized as follows:

- Section 5.2. describes the BMPs that MDOT will use to keep the general public informed and involved with storm water management programs, and the measurable goals associated with each BMP.
- Section 5.3. describes the schedule for public involvement/participation BMP implementation.

### **5.2. BMP Identification and Measurable Goals**

In order to keep the public active in all aspects of the MDOT storm water management program, the following sections identify the BMPs to be implemented.

#### **5.2.1. Public Notification of Storm Water Management Program**

There are no specific state and federal transportation laws prescribing public notice requirements for MDOT applicable to the municipal storm water NPDES rules.

An electronic copy of the draft and final SWMP will be posted on the MDOT public website allowing access to the document. The public will be notified of the MDOT's public website page through the distribution of brochures and website promotion cards. Copies of the Annual Reports will also be made available on the MDOT website for public access.

This BMP will be implemented at the completion of the final distribution of this report. Measurable goals will be reported in each annual report and will include the following items:

- Type and number of media used for notification
- Number of copies of the SWMP downloaded from the website

- Number of copies of the Annual Report downloaded from the website

### 5.2.2. Notification of Local Stream or Watershed Protection Organizations

MDOT will inform local stream or watershed protection organizations of activities under the storm water management program and will allow them to review and comment on the storm water management program as it is implemented.

A list of known watershed and/or local stream organizations for the five Phase I communities is included in Appendix C. Identified watershed or local stream organizations for the five Phase I communities will be notified of storm water management program activities by MDOT. Through this notification, the watershed and local stream organizations will be informed of the overall purpose of the plan, location of the SWMP online, how to make comments on actions proposed in the plan, the date comments must be submitted by, and who to address the comments to.

This BMP will be implemented at the completion of the final distribution of this report, and once every five years, as new permits are required. Measurable goals will be reported in each annual report and will include the following items:

A list of all watershed or local stream organizations contacted about the SWMP  
Number of copies of the SWMP downloaded from the MDOT's public website page

## 5.3. Implementation Schedule

For purposes of public involvement and participation, the BMPs discussed in this chapter are summarized in the following Table 5-1.

**Table 5-1 Public Involvement and Participation Summary**

ID No.	BMP	Measurable Goals
5.2.1	Public Notification of Storm Water Management Project	Number of copies of the SWMP downloaded from the Website Number of copies of the Annual Report downloaded from the website Type and number of media used for notification
5.2.2	Notification of Local Stream and Watershed Organizations	A list of all watershed or local stream organizations contacted about the SWMP Number of copies of the SWMP downloaded from MDOT's public website page

MDOT will begin to implement these BMPs upon approval of this plan by MDEQ and the availability of funds. The following Table 5-2 is an estimated implementation schedule for all of the actions needed to fulfill the BMPs discussed in this chapter for public involvement and participation.

**Table 5-2 Implementation Schedule for Public Involvement and  
Implementation BMPs**

ID No.	Action	Year of Implementation			
		2002	2003	2004	2005
5.2.1	<b>Public Notification of Storm Water Management Program</b>				
	Final SWMP available on the website for public review	X	X	X	X
	Post the Annual Reports	X	X	X	X
5.2.2	<b>Notification of Local Stream or Watershed Protection Organization</b>				
	Notify organizations of storm water management plan	X			

## **6. Illicit Discharge Elimination Program BMPs**

### **6.1. Overview**

The purpose of this chapter is to describe the strategy that MDOT will use to fulfill Permit requirements involving the Illicit Discharge Elimination Program (IDEP) and its application to MDOT roadways, facilities, and other property.

An illicit discharge is the discharge or seepage that is not composed entirely of storm water into the drainage system, except for discharges specified in Parts I.A.1.b. and c. of the Permit. Illicit discharges include dumping of motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, domestic animal wastes, litter or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-storm water waste into the drainage system.

An illicit connection is a physical connection to the drainage system that primarily conveys illicit discharges into the drainage system or is not authorized or permitted by MDOT.

The illicit discharge elimination program's purpose is to find illicit connections and discharges. The program involves the following major components:

- A program to find, prioritize, and eliminate illicit connections and minimize illicit discharges to the permitted drainage system from commercial, industrial, institutional, public, and residential sources
- The legal authority to prohibit discharges into the drainage system operated by MDOT

This chapter is organized as follows:

- Section 6.2. describes the BMPs that MDOT will use in the illicit discharge program, and the measurable goals associated with each BMP.
- Section 6.3. describes the schedule for illicit discharge program BMP implementation.

### **6.2. BMP Identification and Measurable Goals**

To ensure that there are no illicit connections to the MDOT storm drainage system nor illicit discharges draining into the MDOT drainage system, the following BMPs will be implemented.

#### **6.2.1. Dry Weather Field Screening**

The presence of flow in storm water systems when it has not rained in several days may be an indicator that there is an illicit connection. As the presence of dry weather flow is such a valuable indicator, field screening may be conducted during dry weather flow conditions.

A consultant contractor working for MDOT already has completed a dry weather screening program for the outfalls located in the five Phase I communities.

A copy of the MDOT NPDES Storm Water IDEP Field Protocol Manual is attached in Appendix D for complete details on how dry weather screening is performed. In brief, the following steps are performed to determine whether an illicit connection/discharge exists at a specific site:

1. Check/confirm locations of outfalls.
2. Observe the outfall for presence of dry weather flow.
3. Estimate the flow rate if flow is present.
4. Observe and record information on odor, color, clarity, floatables, deposits, vegetation condition, structural condition, and biological factors.
5. Perform field measurements of water temperature and pH.
6. Collect samples for further laboratory testing.
7. Record data on a field screening data sheet.
8. As needed, track the potential pollutant source upstream, using steps 3 through 7, to isolate the source of the potential pollutant.
9. Compile and summarize all data.

To ensure that quality work is being performed, certain measurable goals have been established in the dry weather screening process. These measurable goals include:

- Number and location of confirmed outfalls
- Total number of suspected illicit connections/discharges identified

The October 1, 2002 Annual Report will include the total results of this program, and subsequent reports will include internal training efforts for the job related public to eliminate illicit discharges and connections.

#### **6.2.2. Follow-Up Identification and Elimination Program**

When an alleged illicit discharge or connection is identified during the field screening process, a consultant firm working under contract to MDOT will undertake a program to identify and correct the source, when possible. In brief, the consultant performs the following steps.

- Work systematically upstream on a manhole-to-manhole basis during dry weather flow investigation to establish where suspected illicit discharge or connection first enters the system.
- Perform further testing as appropriate (refer to Appendix D).
- Conduct additional investigations to identify the source of the illicit connection or discharge, as appropriate.
- If the source is within MDOT's right-of-way and is not from an active permitted discharge, then actions will be initiated to eliminate the illicit connection or discharge using MDOT's legal procedure for removal of an encroachment.

- If the illicit discharge or connection source is outside of MDOT's right-of-way, then the MDEQ and the City's storm water manager will be contacted to coordinate efforts to locate, identify, and notify the owner.

These tasks have been completed by MDOT on the five Phase I cities.

The measurable goals associated with this BMP are as follows:

- Number and location of manholes tested for each suspected illicit discharge/connection
- Results of sample measurements
- Description and number of illicit connections/discharges identified
- Description of corrective measures

The descriptions of this BMP implementation and results will be included in the October 1, 2002 Annual Report with subsequent reports focusing on internal training methods.

### **6.2.3. Preventing Future Illicit Connections and Discharges**

The most important task in preventing or minimizing future illicit connections and discharges is public and internal education programs, and effective guidance and policies. MDOT is conducting an extensive, public and internal education effort, as described in Chapter 4 of this document.

MDOT has the legal authority to prevent or minimize future illicit connections derived from state statutes. This legal authority provides MDOT with the legal mechanisms to:

- Regulate the contribution of pollutants to its MS4
- Prohibit illicit discharges and control spills and dumping
- Assure that appropriate cleanup measures were undertaken
- Coordinate with other entities that are covered by the NPDES storm water permitted systems to control the contribution of pollutants to MDOT's drainage system
- Control construction site and other industrial discharges to the MS4
- Require compliance with all regulations and statutes
- Carry out inspections, surveillance, and monitoring procedures

MDOT has formed a focus group to work on legal requirements to prevent future sewer tap-ins or cross connections into the MDOT's storm sewer system. To update project requirements and assist with preventing future illicit connections, MDOT is presently working on compiling drainage information now included in many separate manuals into one drainage manual to be used on all MDOT projects. This manual will contain specific criteria for the identification, elimination, and prevention of any cross-connections between sanitary and storm sewer systems.

Changes are also currently being made to Sections 14.01 and 14.02 of the MDOT's Construction Permit Manual in an effort to update MDOT's current tap-in process. These changes include:

- Addition of language addressing water quality
- The checklist in section 14.02 will be modified to reflect water quality
- The certification in section 14.02 will be incorporate water quality concepts

While these changes are being made, MDOT is also examining legal methods and options for notification of permit changes. After these tasks have been completed, the focus group will work to identify changes in data entry, reporting, and develop a new description of the permit process.

To evaluate the progress the focus group is making on changing legal requirements for the tap-in process, the following measurable goals will be recorded in the annual reports:

- Report status of the changes on the Construction Permit Manual
- Report status on the development of a new description of the permit process

These steps will help to eliminate the possibility of tap-ins to MDOT MS4s in the future.

### **6.3. Implementation Schedule**

The strategy that MDOT will use in the fulfillment of permit requirements involving the IDEP and its application to MDOT roadways, facilities, and other property is summarized in Table 6-1.

**Table 6-1 Illicit Discharge Elimination Program Summary**

<b>ID No.</b>	<b>BMP</b>	<b>Measurable Goals</b>
6.2.1	Dry Weather Field Screening	<ul style="list-style-type: none"> <li>• Number and location of confirmed outfalls</li> <li>• Total number of suspected illicit connections/discharges identified</li> </ul>
6.2.2	Follow Up Identification and Elimination Program	<ul style="list-style-type: none"> <li>• Number and location of manholes tested for each suspected illicit discharge/connection</li> <li>• Results of sample measurements</li> <li>• Description and number of illicit connections/discharges identified</li> <li>• Description of corrective measures</li> </ul>
6.2.3	Preventing Future Illicit Connections and Discharges	<ul style="list-style-type: none"> <li>• Report status of the changes on the Construction Permit Manual</li> <li>• Report status on the development of a new description of the permit process</li> </ul>

MDOT will continue to implement these BMPs and will begin work on any other necessary tasks upon instruction by MDEQ and the availability of funds. The following

Table 6-2 is an estimated implementation schedule for all of the actions needed to fulfill the BMPs discussed in this chapter for illicit discharge elimination program.

**Table 6-2 Implementation Schedule for Illicit Discharge Elimination Program BMPs**

ID No.	Action	Completed for Phase I Communities	Year of Implementation			
			2002	2003	2004	2005
6.2.1	<b>Dry Weather Field Screening</b>					
	Complete initial screening of outfalls	X				
6.2.2	<b>Follow-Up Identification and Elimination Program</b>					
	Follow-up Investigation	X				
6.2.3	<b>Preventing Future Illicit Connections and Discharges</b>					
	Completion of the Drainage Manual		X	X		
	Update MDOT's Construction Permit Manual		X	X		
	Examine legal methods and options for notification of permit changes		X	X		
	Choose appropriate legal methods and options		X	X		
	Identify changes in data entry and reporting		X	X		
	Implement changes in data entry and reporting		X	X		
	Develop new description of permit process		X	X		
	Distribute new description of permit process		X	X		

## **7. Project Post Construction BMPs**

### **7.1. Overview**

After construction, water quality can be impacted by increased sedimentation and/or pollutant loading. This chapter will describe how MDOT will fulfill permit requirements to implement and enforce a program to address storm water runoff from new development and redevelopment projects that drain into MDOT storm drainage systems. Typical development and redevelopment projects include municipal and commercial operations connecting and discharging storm water into the MDOT system. BMPs addressing MDOT constructed projects are discussed in Chapter 9. The program involves cooperating with local planning agencies on storm water issues.

This chapter is organized as follows:

- Section 7.2. describes the BMPs that MDOT will use to deal with post construction for new development and redevelopment projects, and the measurable goals associated with each BMP.
- Section 7.3. describes the implementation schedule to deal with post construction for new development and redevelopment projects.

### **7.2. BMP Identification and Measurable Goals**

To implement and enforce a program addressing storm water runoff from new development and redevelopment projects that drain into MDOT storm drainage systems, the following BMPs will be utilized.

#### **7.2.1. Coordination with MPOs**

MDOT currently works with the Metropolitan Planning Organizations (MPO) and local planning agencies to prepare transportation plans as required by TEA-21. MDOT will meet with MPO's and local agencies to determine the appropriate role, if any, of the planning agencies in implementation of the stormwater program to allow federal aid to be used for implementation of the program.

The following measurable goals will be recorded in the annual report for coordination with MPOs:

- Summary new programs, policies, procedures or information.
- Number and names of metropolitan planning organizations identified and worked with.

#### **7.2.2. Review of Site Plans for Drainage Connections**

All operations that need to work in the MDOT ROW by either constructing a driveway or tapping into the existing MDOT MS4 are required to obtain a permit from MDOT. MDOT's legal authority to control driveway access and drainage is Act 200, Public Acts

of 1969 administrative rules R 247.224, MDOT's authority to control illicit connections and construction activities in the ROW is under Act 368, Public Act of 1923.

While these changes are being made, MDOT is also examining its legal authority and options for permit changes. After these tasks have been completed, work will be done to identify changes in data entry, reporting, and develop a new description of the permit process.

To determine the effectiveness of the review of site plans for commercial operations, the following measurable goal will be recorded in the annual report summary of new programs, policies, procedures or information.

### 7.3. Implementation Schedule

For review of the Post Construction Storm Water Management Program for New Development and Redevelopment Projects, the BMPs discussed in this chapter are summarized in the following Table 7-1.

**Table 7-1 Post Construction Storm Water Management Program for New Development and Redevelopment Projects Summary**

ID No.	BMP	Measurable Goals
7.2.1	Coordination with MPOs or local planning agencies	<ul style="list-style-type: none"> <li>Summary of new programs, policies, procedures or information</li> <li>Number and names of metropolitan planning organizations identified and worked with</li> </ul>

MDOT will continue to implement these BMPs and will begin work on any other necessary tasks, upon instruction by MDEQ and the availability of funds. The following Table 7-2 is an estimated implementation schedule for all of the actions needed to fulfill the BMPs discussed in this chapter for the post construction storm water management program for new development and redevelopment projects.

**Table 7-2 Implementation Schedule for Post Construction Storm Water Management Program for New Development and Redevelopment Project BMPs**

ID No.	Action	Year of Implementation			
		2002	2003	2004	2005
7.2.1	<b>Coordination with MPOs and Local Planning Agencies</b>				
	Continue to identify and work with MPOs/local planning agencies	X	X	X	X
	Keep track of and summarize any new programs, policies, procedures or information	X	X	X	X
7.2.2	<b>Review of Site Plans for Drainage Connections</b>				
	Continue ongoing work and keep track of and summarize any new programs, policies, procedures or information	X	X	X	X

## **8. Construction Erosion and Sediment Control BMPs**

### **8.1. Overview**

Sediment is one of the most significant pollutants by volume that affects storm water quality in Michigan. Sediment in streams may damage plant and animal life, and fill in ponds, lakes, and reservoirs. Control of soil erosion and sedimentation through MDOT's construction and maintenance program involves the following major components:

- MDOT follows sedimentation control procedures as a APA under Part 91 of NREPA of 1994, as amended.
- MDOT follows the permit by administrative rule under Part 21 Wastewater Discharge of Part 31 of NREPA of 1994, as amended

This chapter is organized as follows:

- Section 8.2. provides background information on the MDOT's APA status and current practices.
- Section 8.3. describes the BMPs that MDOT will use for construction storm water control, and the measurable goals associated with each BMP.
- Section 8.4. describes the schedule for construction storm water control BMP implementation.

### **8.2. Background Information**

MDOT is an Authorized Public Agency (APA) under the Natural Resources and Environmental Protection Act, Act 451, Part 91, Michigan Soil Erosion Control. Pursuant to Part 91 and its Administrative Rules, MDOT has an approved plan for soil erosion and sedimentation planning prevention, as detailed in the August 2, 2000, MDOT publication, "Soil Erosion and Sedimentation Control Manual."

In the planning phase of large and small projects, areas of erosive potential and areas susceptible to damage from excessive sedimentation are identified by MDOT. These areas will be controlled during and after construction, by such considerations as shifting the alignment of a highway to eliminate or minimize the encroachment into a surface water environment, or a change in grade to avoid exposing erodible soils. Another consideration is that, when possible, stream crossings should be made at stable reaches of a stream where straight banks are evident and there are no meanders. Stream crossings and encroachments should be kept at a minimum to reduce soil erosion and sedimentation.

For non-MDOT projects, Act 200 of the Public Acts of 1969 and Act 368 of the Public Acts of 1923 as amended establishes MDOT's legal authority to control access and drainage adjacent to MDOT roadway ROWs. Act 200 also requires all parties who propose driveway construction adjacent to MDOT's ROW obtain a permit from MDOT.

This permit process involves a review by MDOT of the proposed drainage for the site and requires that the runoff from the site does not exceed the pre-developed volume. These non-MDOT projects within the MDOT ROW need individual soil erosion control permits from the County Enforcing Agent (CEA) or Municipal Enforcing Agent (MEA).

The appropriate MDOT staff is trained and certified, as required under Part 91. MDOT utilizes Certified Storm Water Operators under Part 31 of NREPA. During pre-construction meetings contractors are informed about their responsibilities, including their responsibility for obtaining all proper permits and meeting all of the appropriate soil erosion and sedimentation control requirements for their project both inside and outside of the MDOT ROW. Contractors also are informed of MDOT's Soil Erosion and Sedimentation Control Manual, and Section 208 of MDOT's Construction Manual. The preferred method of informing the CEA or MEA is to include them in the distribution of the pre-construction meeting minutes unless the project does not involve work on MDOT's trunkline.

### **8.3. BMP Identification and Measurable Goals**

To control construction storm water, the BMPs described below will be implemented.

#### **8.3.1. Notification of MDEQ of Non-Compliance**

Refer to the corrective action section of MDOT's Soil Erosion and Sedimentation Control Manual.

Measurable actions will be reported in each annual report and will include the following items:

- Summary of new programs, policies, procedures or information
- Summary of non-compliance activities that resulted in soil erosion and sedimentation deposits in waters of the state and a description of corrective actions taken

#### **8.3.2. Procedure to Receive and Consider Public Complaints**

The MDOT website includes region contact information. Currently, the general public usually contacts the MDEQ or someone at the regional office or TSC of the MDOT. Complaints are passed on to the Delivery Engineer in charge of the construction activity. The Delivery Engineer, or appointed representative, will keep a log file of complaints received. All complaints will receive appropriate attention and consideration. Corrective action will be implemented as needed.

In order to evaluate effectiveness of this program, several measurable goals will be established. Actions related to these measurable goals will be reported in the annual report submitted to MDEQ each year and will include the following:

- Summary of new programs, policies, procedures or information
- Summary of public complaints received and actions taken

#### 8.4. Implementation Schedule

For review of the Construction Storm Water Runoff Control Projects, the BMPs discussed in this chapter are summarized in the following Table 8-1.

**Table 8-1 Construction Storm Water Runoff Control Summary**

ID No.	BMP	Measurable Goals
8.2.1	Notification of MDEQ of non-compliance	Summary of new programs, policies, procedures or information Summary of non-compliance activities that resulted in soil erosion and sedimentation deposits in waters of the state and a description of corrective actions taken
8.2.2	Procedure to receive and consider public complaints	Summary of new programs, policies, procedures or information Summary of public complaints received and actions taken

MDOT will begin work on any necessary tasks upon approval of this plan by MDEQ and the availability of funds. The following Table 8-2 is an estimated implementation schedule for all of the actions needed to fulfill the BMPs discussed in this chapter for the construction storm water runoff control projects.

**Table 8-2 Implementation Schedule for Construction Storm Water Runoff Control BMPs**

ID No.	Action	Year of Implementation			
		2002	2003	2004	2005
8.3.1	<b>Notification of MDEQ of Non-Compliance</b>				
	Notification and corrective action, if non-compliance occurs	X	X	X	X
8.3.2	<b>Procedure to Receive and Consider Public Complaints</b>				
	Procedure to receive and consider public complaints	X	X	X	X

## **9. Pollution Prevention/Good Housekeeping BMPs**

### **9.1 Overview**

This chapter describes how MDOT will fulfill Permit requirements to revise and implement a program of operation and maintenance BMPs with the ultimate goal of preventing or reducing pollutant runoff from MDOT operations and properties to the maximum extent possible. The program involves the following major components:

- Operate drainage system components such as storm drain catch basins, vegetated swales, infiltration basins, and sedimentation basins to remove pollutants from storm water. This involves routine maintenance, maintenance schedules, and long-term inspection procedures to provide pollution removal effectiveness to the maximum extent practicable.
- Implement procedures for the proper disposal of operation and maintenance waste, such as dredge spoil, accumulated sediments, floatables, and other debris removed from the drainage system.
- Construct, operate and maintain state highway right-of-ways and other facilities.
- Maintain existing street cleaning and catch basin maintenance programs and enhancing the existing programs.
- Assure that vehicle maintenance activities do not impact storm water runoff quality.
- Provide permanent identification for any outfall structure constructed or installed after March 10, 2004, that discharges storm water to the waters of the state.
- Ensure that new flood management projects assess the impacts on the water quality of the receiving water and, whenever possible, shall examine existing projects for incorporation of additional water quality protection BMPs.
- Minimize the discharge of pollutants related to the storage, handling and use of herbicides and fertilizers, and provide employee training to supplement information on product labels.

This chapter is organized as follows:

- Section 9.2. describes the BMPs that MDOT will use for pollution prevention/good housekeeping for MDOT operations, and the measurable goals associated with each BMP.
- Section 9.3. describes the schedule for pollution prevention/good housekeeping BMP implementation.

### **9.2 BMP Identification and Measurable Goals**

To implement pollution prevention/good housekeeping BMPs for MDOT operations, the BMPs described below will be implemented.

### **9.2.1 MDOT Manuals**

As discussed in other sections, MDOT is in the process of preparing a Drainage Manual to describe MDOT's policies and procedures in the design of drainage facilities, and storm water management program BMPs for the MDOT designers and design consultants. This will be an electronic, interactive training device and will be referenced in consultant design contracts. The BMPs referenced in the Drainage Manual and the Soil Erosion and Sedimentation Control Manual will include guidance on the design and implement the BMPs.

### **9.2.2 Structural BMPs**

Structural BMPs are physical controls that may remove pollutants from runoff. They may limit the rate of runoff from MDOT right-of-way and other facilities. As discussed in Section 3.2.1., MDOT performed an extensive review of BMPs and developed an approved list of BMPs to use on projects. Details of this analysis are provided in Appendix B. Section 3.2.1. provides a summary list of initially-approved BMPs and the internal approval process for adopting new BMPs.

There are many different options for structural controls to use during and after construction for improved water quality and quantity issues. Therefore, it is very important that goals are set along the planning and construction path to ensure that the appropriate structural controls are being used. The following will be measurable goals for the structural controls:

- Summary of new programs, policies, procedures or information.
- Summary of newly constructed structural BMPs including the number, location, and type installed.

### **9.2.3 Transportation Asset Management Council**

Currently, two separate programs within the MDOT, the Maintenance Activity Reporting System (MARS) and Physical Feature Inventory programs, are used to document the MDOT assets and maintenance performed. The legislature enacted Act 499 of 2002, which creates a Transportation Management Council. The law requires the State Transportation Commission to point members to the new council. The new council will be coordination the asset management process with all of the public road agencies. This may include inventories of all road agency assets. Until this new council work is completed it is unclear what the scope of inventories of transportation assets will include.

### **9.2.4 Operation and Maintenance**

Depending on location around the State, local public transportation agencies working under contract for MDOT or MDOT employees will inspect BMPs on a regular basis. At this time, counties do not keep records detailing the exact inspection and maintenance work that was performed.

MDOT constructs, operates, and maintains its streets, roads, highways, parking lots and other large paved surfaces in a manner to reduce the discharge of pollutants into the drainage system. Neglected structural BMP's may contribute pollutant loading if left

unchecked. For a structural BMP to function as designed, a regular inspection and maintenance program is needed. The inspection and maintenance of each BMP will be determined as it corresponds to guidelines that will be described in the MDOT's Drainage Manual and as described in the MDOT's Operations Maintenance Handbook. The regular inspection and maintenance for the BMPs will maintain the effectiveness and structural integrity of the BMPs.

Operation and maintenance waste materials, such as dredge spoil, accumulated sediments, floatables, and other debris that might be removed from MDOT's drainage system are disposed of at an appropriate site. Exact procedures are spelled out in the MDOT Operation and Maintenance Handbook.

MDOT also conducts other maintenance activities that help prevent storm water pollution such as ditch clean out, culvert and underdrain maintenance, Adopt-a-Highway, mowing, brush control, and bank stabilization.

These activities will help control all highway pollutants including deicing activities. MDOT uses deicing salts when conditions warrant. MDOT uses a system of calibrated salt dispensers to minimize the amount of salt applied to roadways. MDOT conducted a literature review comparing various deicing alternatives and found that salt is as cost-effective, and is no more environmentally harmful than any of the other alternatives reviewed.

The following measurable goals for the BMP Inspection and Maintenance Plan will be recorded in the Annual Report:

- Summary of new programs, policies, procedures or information
- Summary of inspection/maintenance performed on structural BMPs

#### **9.2.5 Fleet Maintenance**

MDOT ensures that proper precautions are taken so that vehicle maintenance activities do not impact storm water runoff quality. A Pollution Incidence Prevention Plan (PIPP) has been written and is implemented for all MDOT maintenance and storage facilities. Planning is required by the Part 5, Spillage of Oil and Polluting Materials administrative rules promulgated pursuant to Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451) MCL 324.3101 *et seq.* These rules were revised effective August 31, 2001.

The following measurable goal for the operation and maintenance of MDOT fleets will be recorded in the Annual Report:

- Summary of new programs, policies, procedures, or information
- Summary of PIPP audits conducted

### **9.2.6 Storm Sewer Outfall Labeling**

The MDOT will provide permanent identification to all outfall structures that are installed or constructed after March 10, 2004. MDOT is currently working on design standards needed to meet this requirement.

The following measurable goals for the operation and maintenance of MDOT storm sewers through labeling will be recorded in the Annual Report:

- Summary of new programs, policies, procedures, or information
- Number of storm sewer outfalls labeled

### **9.2.7 Flood Control Projects**

MDOT does not perform flood control projects.

### **9.2.8 Pesticides and Fertilizers**

Pesticides and fertilizers may be applied on MDOT right-of-way by certified applicators, consisting of MDOT personnel or contractors in accordance with state and federal regulations. MDOT's pesticide and herbicide program is tailored to each region based on their needs. The objectives of the program are:

- To maintain the highway roadside for a safe traveling condition by controlling the vegetation with herbicides and growth regulators.
- To preserve the structures and facilities by eliminating vegetation growth in areas that cause breakup of structures.
- To create an atmosphere of care and pride at certain facilities by maintaining the turf areas in a weed-free, vigorous growing condition.
- To protect MDOT's resources from insects and other harmful pests.

In Michigan, only a registered or certified Pesticide Applicator, Category 6 is eligible to apply either general-use or restricted-use pesticides to the highway right-of-way. MDOT holds a training session that is approved by the Michigan Department of Agriculture each year to certify employees. MDOT's policy is to use herbicides only on an as-needed basis. Each region's need for herbicides is established annually.

The following measurable goals for the operation and maintenance of pesticides and fertilizers will be recorded in the Annual Report:

- Summary of new programs, policies, procedures, or information
- Number of certified MDOT personnel
- Number of individuals attending the yearly training session

## **9.3 Implementation Schedule**

For review of the Pollution Prevention/Good Housekeeping Projects, the BMPs discussed in this chapter are summarized in the following Table 9-1.

**Table 9-1 Pollution Prevention/Good Housekeeping Summary**

<b>ID No.</b>	<b>BMP</b>	<b>Measurable Goals</b>
9.2.2	Structural Controls	Summary of new programs, policies, procedures or information Summary of newly constructed structural BMPs including the number, location and type installed
9.2.4	Operation and Maintenance	Summary of new programs, policies, procedures or information Summary of inspection/maintenance performed on structural BMPs
9.2.5	Fleet Maintenance	Summary of new programs, policies, procedures, or information Summary of PIPP audits conducted
9.2.6	Storm Sewer Labeling	Summary of new programs, policies, procedures, or information Number of storm sewer outfalls labeled
9.2.8	Pesticides and Fertilizers	Summary of new programs, policies, procedures, or information Number of certified MDOT personnel Number of individuals attending the yearly training session

MDOT will continue work on any necessary tasks upon approval of this plan by MDEQ and the availability of funds. The existing street cleaning and catch basin maintenance programs will be maintained. The schedule for the asset management program is unknown at this time. Beginning October 1, 2003, annual reports will be issued from the Transportation Asset Management Council outlining long-range plans.

Table 9-2 is an estimated implementation schedule for all of the actions needed to fulfill the BMPs discussed in this chapter for the pollution prevention/good housekeeping projects.

**Table 9-2 Implementation Schedule for Pollution Prevention/Good Housekeeping**

<b>ID No.</b>	<b>Action</b>	<b>Year of Implementation</b>			
		<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
9.2.1	<b>MDOT Manuals</b>				
	Drainage Manual		X		
9.2.2	<b>Structural BMPs</b>				
	Structural BMPs		X	X	X
9.2.3	<b>Transportation Asset Management Council</b>				
	Inventory of Assets		X	X	X
9.2.4	<b>Operation and Maintenance</b>				
	Continue existing operation and maintenance program	X	X	X	X
9.2.5	<b>Fleet Maintenance</b>				
	Continue existing fleet maintenance program	X		X	X
9.2.6	<b>Storm Sewer Labeling</b>				
	Permanently label newly constructed storm sewer outfalls	X	X	X	X
9.2.7	<b>Flood Control Projects</b>				
	Does not apply – No action required				
9.2.8	<b>Pesticides and Fertilizers</b>				
	Continue existing pesticide and fertilizer program	X	X	X	X

## **10. Program Assessment and Reporting**

### **10.1. Overview**

The purpose of this chapter is to describe the methodology MDOT will use to prepare and submit an annual progress report. This report is due on or October 1 of each year and must be submitted to the appropriate MDEQ District Supervisor. This chapter is organized as follows:

- Section 10.2. describes the general format of the annual report.
- Section 10.3. describes how non-compliance issues will be reported and how compliance assessment will be recorded in the annual report.
- Section 10.4. describes how MDOT will report the environmental impacts that it has had over the past year.
- Section 10.5. describes how the data and results will be reported and how records will be stored.
- Section 10.6. describes how MDOT will report upcoming activities.
- Section 10.7. describes how MDOT will report BMP changes.
- Section 10.8. describes the notification requirements to the MDEQ.
- Section 10.9. describes the notification process for when additional point source discharges are identified.
- Section 10.10. describes how changes are made to the Storm Water Management Plan.

### **10.2. Annual Report**

The annual report will fulfill permit requirements, as well as serve as a self-audit for MDOT on how progress is being made toward accomplishment of tasks set forth by this Storm Water Management Plan. On or before October 1, 2002, the first annual report describing the progress toward compliance with requirements of the Permits within the five Phase I regulated communities will be submitted to the appropriate MDEQ District Supervisor for approval. This report will follow the same format as subsequent reports, and will report on compliance with the storm water management plan approved on February 27, 1998, as amended. Subsequent reports will report on compliance with the current permit conditions. The basic chapter outline of the Annual Report will be as follows:

1. Overview
2. Program Management
3. Public Education BMPs
4. Public Involvement/Participation BMPs
5. Illicit Discharge Elimination BMPs
6. Post construction for New Development and Redevelopment Project BMPs
7. Construction Storm Water Runoff Control BMPs
8. Pollution Prevention/Good Housekeeping BMPs

9. Reporting
  - 9.1. Overview
  - 9.2. Compliance Assessment
  - 9.3. Environmental Impacts
  - 9.4. Data and Results
  - 9.5. Upcoming Activities
  - 9.6. BMP Changes
  - 9.7. Notices of Changes in Reliance on Permitted Drainage System Operators
  - 9.8. Drainage System Changes
  - 9.9. Revised Fiscal Analysis
  - 9.10. Annual Budget
10. Location Specific issues

### **10.3. Compliance Assessment**

During each annual report, MDOT will report on the progress made toward complying with the Storm Water Management Plan and the Permit. The first annual report will describe compliance with the September 18, 1996, Permit. This will include an assessment and reporting of certain measurable goals made by MDOT to improve the Illicit Discharge Elimination Program (IDEP), pollution prevention measures, public education actions, and construction dealings. Similar assessment and goals will be discussed in the subsequent annual reports although reporting will focus on the assessment of the appropriateness of all BMPs and work that has been accomplished towards meeting the measurable goals for these BMPs.

### **10.4. Environmental Impacts**

An assessment of the pollution reduction and probable receiving water quality impacts associated with the program implementation will be provided with the annual reports beginning in 2003. When applicable, a statement will be included regarding negative water quality impacts that may have occurred as a result of illicit discharges or accidental spills during the previous year.

### **10.5. Data and Results**

MDOT will provide a summary of relevant data gathered over the reporting period in each annual report for assessment reasons.

### **10.6. Upcoming Activities**

MDOT will report a summary of the storm water activities to be implemented during the next reporting period in each annual report. This summary will also include schedules for elimination of the illicit connections that were identified but were not disconnected prior to annual report submittal. Upcoming activities will most likely be tasks identified on the implementation schedules in each BMP section of this plan.

### **10.7. BMP Changes**

With new technology and research being developed each day, it is likely that during the period of this SWMP, new and improved technology will be identified for BMPs. BMPs presented as part of this plan may be found to not be effective. To keep current with the

latest knowledge and technology, the MDOT will report any planned changes in identified BMPs or measurable goals for any of the minimum measures in each annual report.

### **10.8. Notification Requirements**

Notification requirements are contained in Part I, Section C.2 of the permit. These requirements include the following:

Notify the MDEQ, by the MDOT Storm Water Program Coordinator, verbally within 24 hours of becoming aware of any discharges to the drainage system that may endanger public health or the environment if the discharges are from facilities/sites that are not complying or will be unable to comply with the following:

- Requirements of an NPDES permit, including an individual permit, a general permit, or the Permit-by-Rule for storm water discharges from construction sites;
- Requirements of a State of Michigan permit for soil erosion and sedimentation control pursuant to Part 91 of P.A. 451 of 1994;
- Requirements of a State of Michigan permit for discharge of liquid wastes to groundwater pursuant to the Michigan Act;
- Requirements of Part 5 (Polluting Materials) of the administrative rules promulgated under the Michigan Act; or
- Part 4 Water Quality Standards.

Non-compliance, as described above, which does not pose imminent danger to public health or the environment shall be reported either verbally or in writing within five (5) days of becoming aware of the problem.

Submit written documentation to the MDEQ within fourteen (14) days of having knowledge of any reason MDOT is not complying with or will be unable to comply with any condition specified in this permit. Written documentation shall include the following information:

- A description of the circumstances, including the type of noncompliance.
- The period of noncompliance, if known, including dates and time; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncompliance.
- For illegal discharges to the system, the estimated volume of discharge, a description of the type of pollutants in the discharge, the location of the discharge into the system, the location of the outfall from which the discharge enters waters of the state, identification of the parties responsible for the discharge, if known, and the facility or the construction site from which the discharge originated, if known.

### **10.9. Identification of Additional Point Source Discharges of Storm Water**

The MDEQ will be notified by the MDOT Storm Water Program Coordinator within thirty (30) days of newly identified or constructed point source discharges from the MDOT system discharging either to Waters of the State or to a drainage system operated by another public body or statutory housing authority. Information conveyed to the MDEQ will include the location of the discharge, if coverage of the additional storm water discharge is being requested, and the name of the receiving water or other drainage system operator that receives the discharge.

### **10.10. Storm Water Management Plan Modifications**

Modifications to the storm water management plan are inevitable as the program develops and progresses. Modification may be either initiated by MDOT as program changes are desired or by the MDEQ to address contributions of discharges that are impairing receiving water quality or changes necessary to comply with state or federal requirements. Requested modifications will be submitted to the MDEQ for approval and will include summary information as to the reason for the requested changes.

# **11. Location-Specific Information**

## **11.1. Overview**

The purpose of this chapter is to describe in more detail the five Phase I communities that that are monitored under the current permit. This description will include the location of the community within the state, what MDOT facilities, roads, structures, etc. are in each community, upcoming projects for each community, and local and state contact information. This chapter is organized as follows:

- Section 11.2. describes location-specifics for Ann Arbor
- Section 11.3. describes location-specifics for Flint
- Section 11.4. describes location-specifics for Grand Rapids
- Section 11.5. describes location-specifics for Sterling Heights
- Section 11.6. describes location-specifics for Warren

## **11.2. City of Ann Arbor – University Region/Brighton TSC**

Ann Arbor is located in the Southeastern portion of Michigan's Lower Peninsula, west of Detroit in Washtenaw County. Ann Arbor is situated within the University region of MDOT and is the home of the University of Michigan. The Transportation Service Center (TSC) responsible for this area is located in Brighton, with the region office being located in Jackson.

MDOT trunklines that are located within Ann Arbor's municipal boundaries are I-94, I-94 BL, M-14, and parts of U.S. 23, as shown in Figure 11-1. There are no MDOT facilities or region offices located within this boundary.

MDOT prepares a five-year plan to share with the public for improving the state's roads and bridges with the most current plan covering the time span of 2002-2006. According to the plan, an upcoming project in the Ann Arbor area is a preliminary engineering study on capacity improvements to U.S. 23 between M-14 in Ann Arbor and I-96 in Brighton.

Contact information for the local community regarding storm water issues and concerns are included in Table 11-1.

**Table 11-1 Contact Information for Ann Arbor**

<b>Name</b>	<b>Organization</b>	<b>Phone</b>	<b>Email</b>
Peter Ollila	MDOT Storm Water Program Coordinator	(517) 373-1908	ollilap@michigan.gov
Bob Batt	MDOT University Region Storm Water Coordinator	(517) 750-0410	battb@michigan.gov
Craig Hupy	City of Ann Arbor	(734) 994-1760	chupy@ci.ann-arbor.mi.us
Malama Chock	U of M	(734) 936-1920	chock@umich.edu
Laura Rubin	Huron River Watershed Council	(734) 769-5123	lrubin@hrwc.org
Joan Riley	Ann Arbor Public Schools	NA	NA
Harry Sheehan	Washtenaw County Drain Commissioner's Office	(734) 994-2525	sheehan@co.washtenaw.mi.us

# LOCATOR MAP



A locator map of the state of Michigan, showing its county boundaries. The map is oriented with the state's outline. A black star is located in the southeastern part of the state, specifically in the area of the counties of Benzie, Leelanau, and Charlevoix, indicating the location of the study area.

## LOCATOR MAP



Michigan Geographic Framework base map data obtained from the Michigan Center for Geographic Information.

FIGURE

11-1



### 11.3. Flint – Bay Region/Davidson TSC

Flint is located in the Central Eastern portion of Michigan's Lower Peninsula in Genesee County. Flint is positioned within the Bay region of MDOT and is the home of major industries in the state. The TSC responsible for this area is located in Davison, with the region office located in Saginaw.

MDOT trunklines that are within Flint's municipal boundaries are M-54, I-475, I-69, M-21, a short stretch of Beach Street, and a small portion of U.S. 23, as shown in Figure 11-2. There are no MDOT facilities or region offices located within this boundary.

As stated in Section 11.2, MDOT prepares a five-year plan to share with the public for improving the state's roads and bridges with the most current plan covering the time span of 2002-2006. According to the plan, upcoming projects in the Flint area include a corridor and Intermodel Study on I-69/I-75 in Flint, bridge overlays on I-475 ramps, approach work on I-475 and I-69 bridges in Flint, long and transverse joint repairs on I-69/I-475 interchange ramps, bridge painting on Dort Highway, and road resurfacing and addition of lanes on M-21 and Dort Highway.

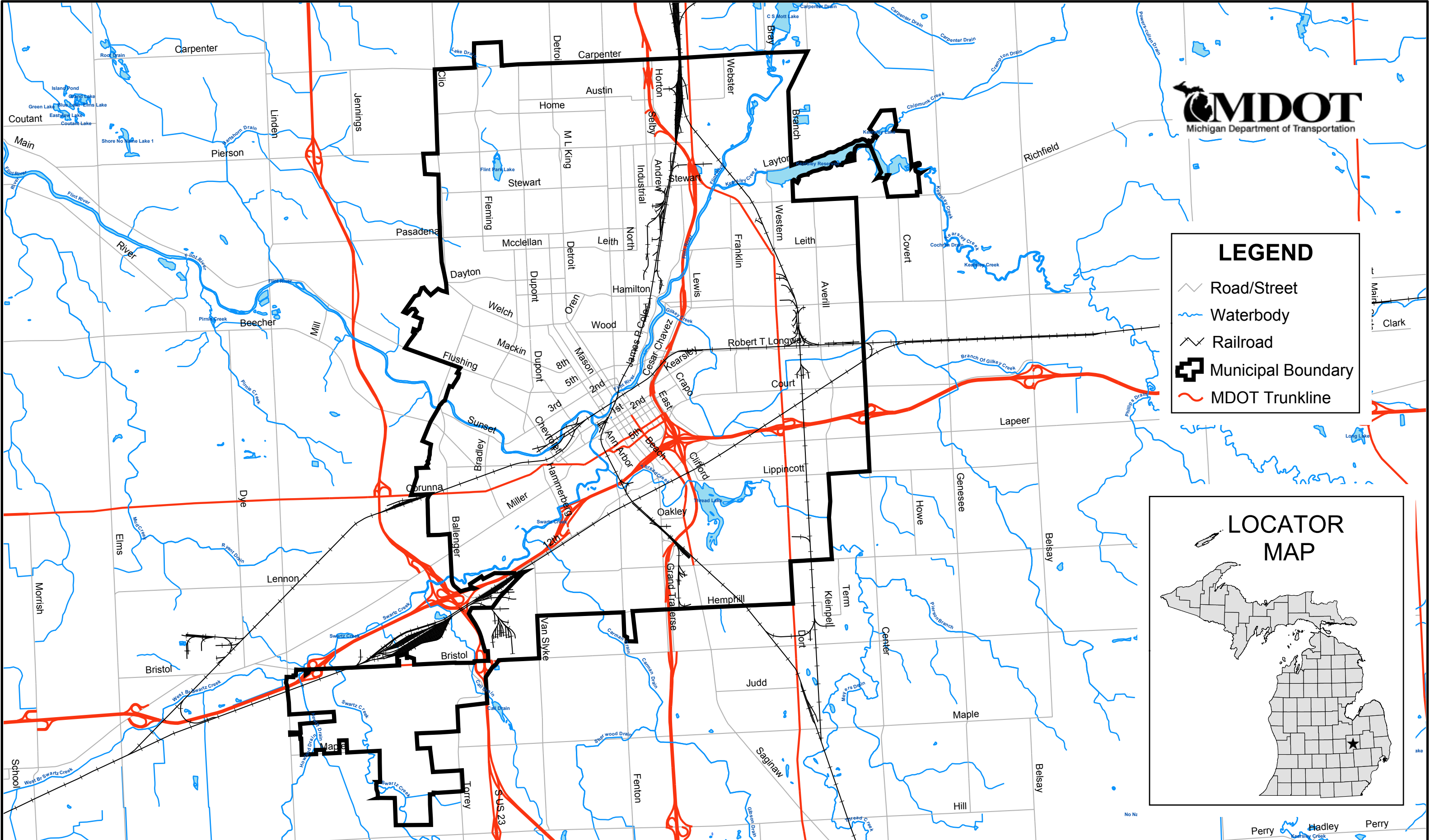
Contact information for the local community regarding storm water issues and concerns are included in Table 11-2.

**Table 11-2 Contact Information for Flint**

<b>Name</b>	<b>Organization</b>	<b>Phone</b>	<b>Email</b>
Peter Ollila	MDOT Storm Water Program Coordinator	(517) 373-1908	ollilap@michigan.gov
Cary Rouse	MDOT Bay Region Storm Water Coordinator	(989) 754-0878	rousec@michigan.gov
Hans Kuhlmann	City of Flint	(810) 766-7135	
Sharon Campbell	City of Flint	(810) 766-7346	
Mike Brown	City of Flint	(810) 766-7210	
Brad Hill	City of Flint	(810)	
Richard Hill-Rowley	University of Michigan -Flint	(810) 766-6608	rhr@umich.edu
Jeff Mansour	Flint River Watershed Coalition	(810) 766-6647	jmansour@umich.edu




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**TETRA TECH MPS**

DESIGNED: **J. BRESOL**    DATE: **09/30/02**



1 inch equals 1.0 miles

Michigan Geographic Framework base map data obtained from the Michigan Center for Geographic Information.

MICHIGAN DEPARTMENT OF TRANSPORTATION  
CITY OF FLINT  
FACILITY MAP

FIGURE  
**11-2**



#### **11.4. Grand Rapids – Grand Region/Grand Rapids TSC**

Grand Rapids is located in the Central Western portion of Michigan's Lower Peninsula in Kent County. Grand Rapids is located within the Grand region of MDOT and is a source of economic expansion for the state. The TSC responsible for this area is located in Grand Rapids along with the region office.

MDOT trunklines that are located within Grand Rapids's municipal boundaries are US-131, I-96, I-196, M-45, M-6, M-11, and Ottawa Drive, as shown in Figure 11-3. There is one MDOT region office located within this boundary.

The Grand Region office and TSC facility, located within the City of Grand Rapids, has an up-to-date Pollution Incident Prevention Plan (PIPP) as discussed in Section 9.2.5. This PIPP is audited every two to three years.

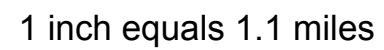
As stated previously, MDOT prepares a five-year plan to share with the public for improving the state's roads and bridges with the most current plan including the time span of 2002-2006. According to the plan, upcoming projects in the Grand Rapids area include major bridge rehabilitation and improvements along I-196 (Gerald R. Ford Freeway), reconstruction of U.S. 131 southbound from I-96 to Ann Street north of Grand Rapids, improvements on I-96 Airport area access and new interchange, construction of South Beltline (M-6), and the study of I-196/I-96 operations.

Contact information for the local community regarding storm water issues and concerns are included in Table 11-3.

**Table 11-3 Local Contact Information for Grand Rapids**

<b>Name</b>	<b>Organization</b>	<b>Phone</b>	<b>Email</b>
Peter Ollila	MDOT Storm Water Program Coordinator	(517) 373-1908	ollilap@michigan.gov
Todd Neiss	MDOT Grand Region Storm Water Coordinator	(616) 451-3091	neisst@michigan.gov
John Schaut	City of Grand Rapids	(616) 456-4637	jschaut@epd.grand-rapids.mi.us
Chuck Schroeder	City of Grand Rapids	(616) 456-3690	N/A
Mia Debruyne	Robert B. Annis Water Resources Institute at Grand Valley State University	(616) 895-2527	debruynm@gvsu.edu





Michigan Geographic Framework base map data obtained from the Michigan Center for Geographic Information.

MICHIGAN DEPARTMENT OF TRANSPORTATION  
CITY OF GRAND RAPIDS  
FACILITY MAP

FIGURE

11-3



### 11.5. Sterling Heights – Metro Region/Macomb TSC

Sterling Heights is located in the Southeastern portion of Michigan's Lower Peninsula in Macomb County in Metro Detroit. Sterling Heights is located within the Metro region of MDOT and is the home of some of the oldest and busiest freeways in the state. The region office that is responsible for this area is located in Southfield. The TSC responsible for this area is in Macomb County along with the MDOT's Metro Regional office.

MDOT trunklines that are located within Sterling Heights municipal boundaries are M-53 and M-59, as shown in Figure 11-4. There are no MDOT region offices located within this boundary.

As stated previously, MDOT prepares a five-year plan to share with the public for improving the state's roads and bridges with the most current plan including the time span of 2002-2006. According to the plan, upcoming projects in the Sterling Heights area include operational improvements along with other local efforts on M-53 from 12 Mile Road to 14 Mile Road, and early preliminary engineering and environmental clearance activities for widening M-59 to a six-lane freeway from Crooks Road to Ryan Road.

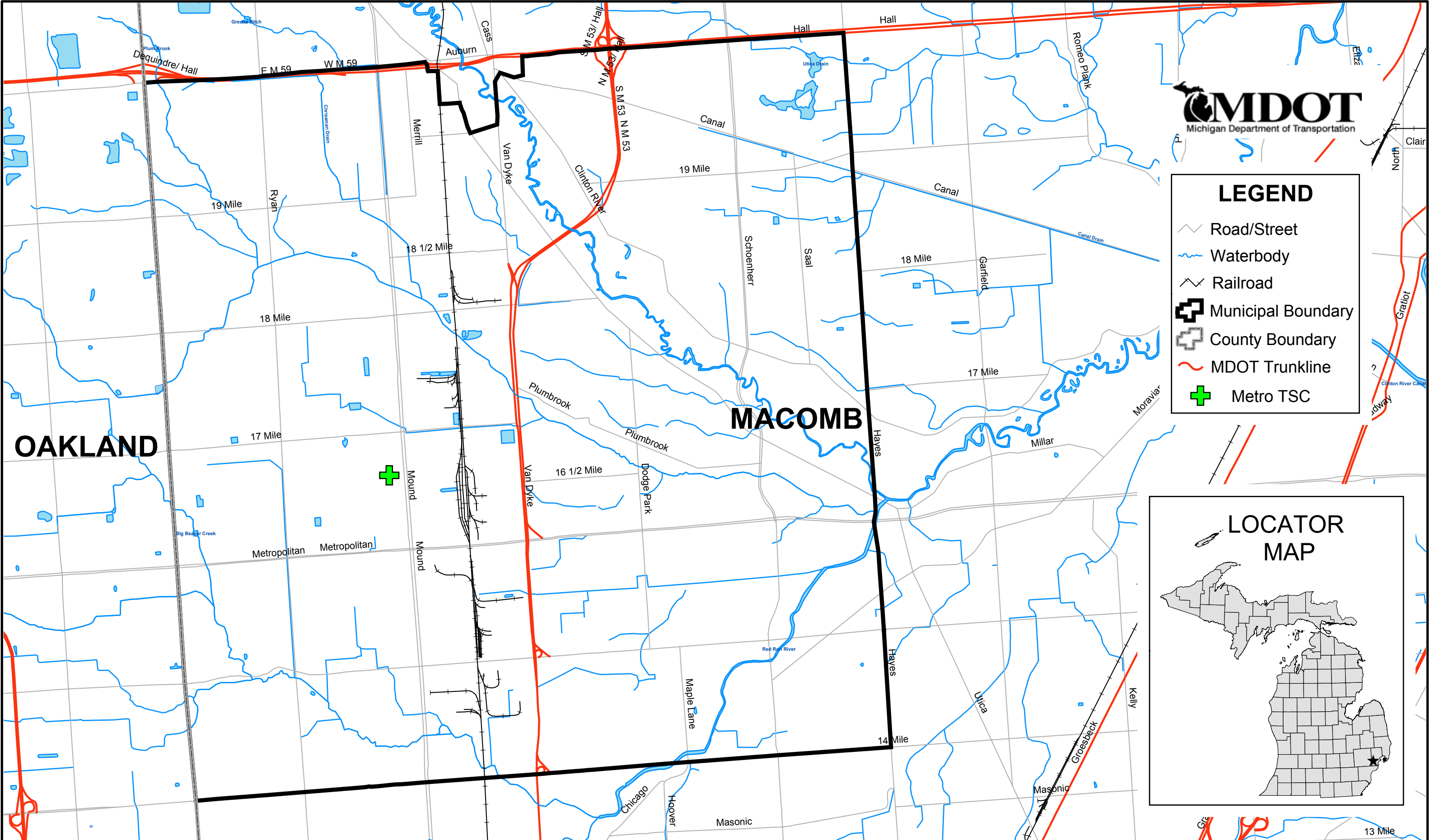
Contact information for the local community regarding storm water issues and concerns are included in Table 11-4.

**Table 11-4 Local Contact Information for Sterling Heights**

<b>Name</b>	<b>Organization</b>	<b>Phone</b>	<b>Email</b>
Peter Ollila	MDOT Storm Water Program Coordinator	(517) 373-1908	ollilap@michigan.gov
Sharon Ferman	MDOT Metro Region Storm Water Coordinator	(248) 569-3103	fermans@michigan.gov
Tom Dehndt	City of Sterling Heights	(586) 446-2498	NA
Dan Sears	City of Sterling Heights	(586) 446-2498	NA
Meg Larson	Clinton River Watershed Council	(248) 853-9581	educator@crwc.org
Barbara Matthews	Macomb County Department of Public Works (MCDPW)	(586) 466-4016	NA

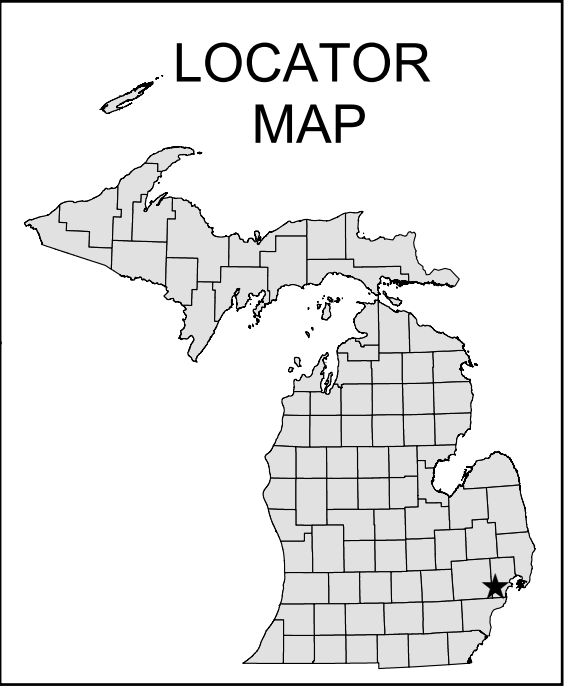


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**LEGEND**

- Road/Street
- Waterbody
- Railroad
- Municipal Boundary
- County Boundary
- MDOT Trunkline
- Metro TSC



DESIGNED: J. BRESOL DATE: 09/30/02



1 inch equals 0.7 miles

Michigan Geographic Framework base map data obtained from the Michigan Center for Geographic Information.

MICHIGAN DEPARTMENT OF TRANSPORTATION  
CITY OF STERLING HEIGHTS  
FACILITY MAP

FIGURE  
**11-4**



### 11.6. Warren – Metro Region/Macomb TSC

Warren is located in the Southeastern portion of Michigan's Lower Peninsula in Macomb County in metro Detroit. Warren is located within the Metro region of MDOT and is the home of some of the oldest and busiest freeways in the state. The region office that is responsible for this area is located in Southfield. The TSC responsible for this area is in Macomb County along with the MDOT's Metro Regional office.

MDOT trunklines that are located within Warren's municipal boundaries are I-696, M-3, M-53, and M-102, as shown in Figure 11-5. There are no MDOT region offices located within this boundary.

As stated previously, MDOT prepare a five-year plan to share with the public for improving the state's roads and bridges with the most current plan including the time span of 2002-2006. According to the plan, an upcoming project in the Warren area is the operational improvements along with other local efforts on M-53 from 12 Mile Road to 14 Mile Road.

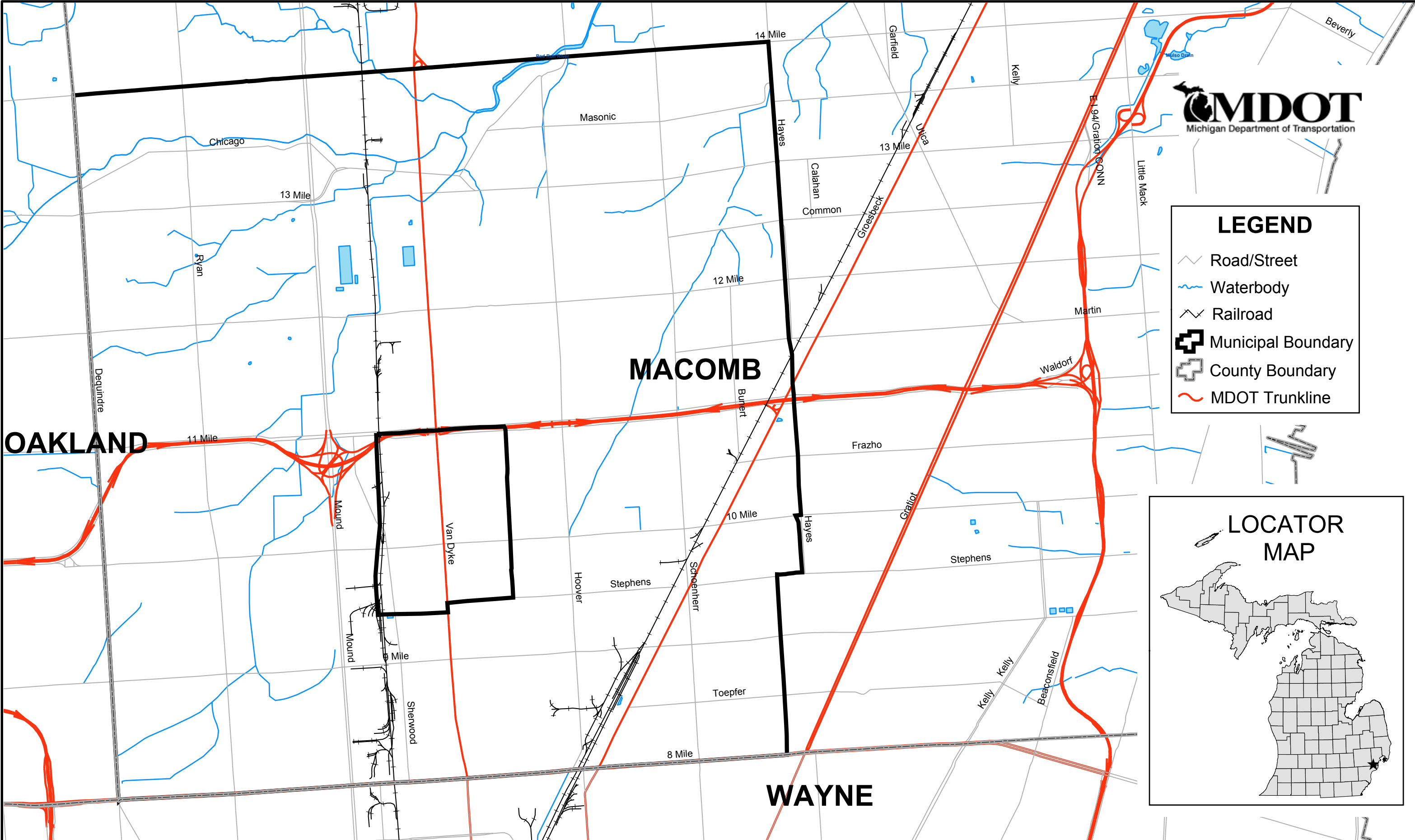
Contact information for the local community regarding storm water issues and concerns are included in Table 11-5.

**Table 11-5 Local Contact Information for Warren**

<b>Name</b>	<b>Organization</b>	<b>Phone</b>	<b>Email</b>
Peter Ollila	MDOT Storm Water Program Coordinator	(517) 373-1908	ollilap@michigan.gov
Sharon Ferman	MDOT Metro Region Storm Water Coordinator	(248) 569-3103	fermans@michigan.gov
Richard Doherty	City of Warren	(810) 759-9300	NA
Todd Schaedig	City of Warren	(810) 759-9300	NA
Meg Larson	Clinton River Watershed Council	(248) 853-9581	educator@crwc.org
Barbara Matthews	Macomb County Department of Public Works (MCDPW)	(586) 466-4016	NA

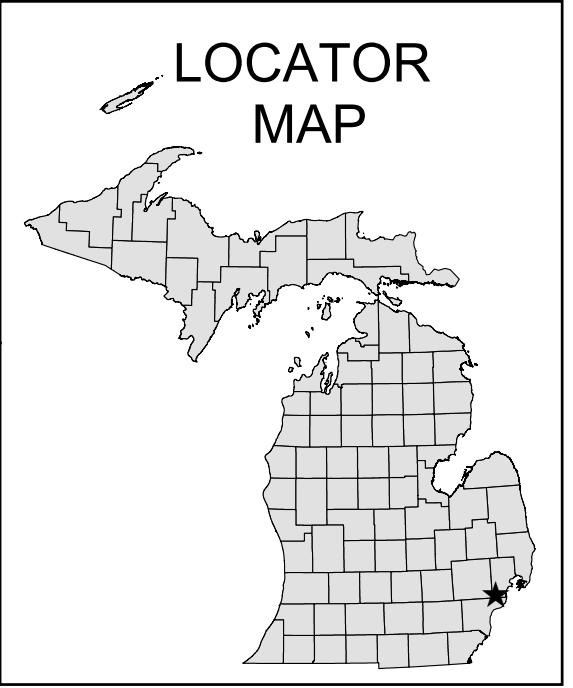


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**LEGEND**

- Road/Street
- Waterbody
- Railroad
- Municipal Boundary
- County Boundary
- MDOT Trunkline



**Tt TETRA TECH MPS**

DESIGNED: J. BRESCOL DATE: 09/30/02



1 inch equals 0.7 miles

Michigan Geographic Framework base map data obtained from the Michigan Center for Geographic Information.

MICHIGAN DEPARTMENT OF TRANSPORTATION  
CITY OF WARREN  
FACILITY MAP

FIGURE  
**11-5**

